



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,936	02/17/2006	John Haig Marsh	305832-00115	8326
64770 7590 11/15/2007 MOMKUS MCCLUSKEY MONROE MARSH & SPYRATOS, LLC 3051 OAK GROVE ROAD SUITE 220 DOWNERS GROVE, IL 60515-1181			EXAMINER HELLNER, MARK	
			ART UNIT 3663	PAPER NUMBER
			MAIL DATE 11/15/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/536,936

**Applicant(s)**

MARSH ET AL.

**Examiner**

Mark Hellner

**Art Unit**

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 07/27/2005
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1- 9 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Liou et al (5,457,568).

Liou et al disclose an integrated semiconductor optical device comprising: an optically active region (20) for generating and confining optical radiation and having an output end for emitting an output beam from the optically active region; a lens region (32, aspherical lens) positioned to receive the output beam from the output end, the lens region having a reduced refractive index and/or an increased bandgap to the adjacent substrate material and being shaped to provide a lens effect.

The subject matter recited above reads on claim 1.

Claim 2 is taught by figure 3, taken as a whole.

The abstract teaches that a change in refractive index of the lens can be produced by changing the thickness of the lens. This teaching in combination with the varied width shown by the drawing anticipates claims 2-5.

Claim 6 is taught by the passive waveguide shown by element 22.

Claim 7 is taught by the alternative disclosed by column 4, lines 32 to 39.

Claim 8 is shown by figure 3.

The butt joining of the active region to the passive region taught by column 4, line 7 broadly reads on claim 9.

A laser alternative (claim 15) is taught by the abstract.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liou et al (5,457,569).

Claims 10 and 11 recite well known structural modifications required to form a lens in the type of material disclosed by Liou et al.

Claims 12-14 recite the well known properties of semiconductor amplifier with a bandgap and, as such would have been suggested by column 3, lines 1-26 of Liou et al.

Liou et al teaches that the active region can be configured as a laser, thus rendering claim 16 obvious because it recites a known type of semiconductor laser.

Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liou et al (5,457,569) in view of Lear (5,633,577)

The modification of Liou et al required to meet claims 17 and 18 is that the device be configured for vertical cavity emission.

Application/Control Number:  
10/536,936  
Art Unit: 3663

Page 4

Lear is cited to show that vertical cavity emission was well known at the time of the present application.

It would have been obvious to have made this modification when seeking multiple emissions from a planar surface.

Any inquiry concerning this communication should be directed to Mark Hellner at telephone number 571 272 6981.

Mark Hellner

Primary Examiner

AU 3663

A handwritten signature in black ink, appearing to read "Mark Hellner", with a stylized flourish at the end.